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Monthly Statistical Report

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SUMMARY

One of the consequences of making year-to-year comparisons with petroleum data is that, at times, shifts in year-to-year growth rates say as much about developments in the year-ago period as they do about the most recent month.

Thus, this September's 1.3 percent increase in total domestic deliveries—the first increase in more than a year—is an indication more of the dropoff in deliveries a year ago than of a marked change in the trend of consumption in recent months. The dropoff last year accompanied the substantially higher petroleum prices following the outbreak of the Iraq/Kuwait crisis in early August, as well as a weakening economy in the latter part of the year. That demand weakness continued into early 1991.

Deliveries this year—though down compared to the year-ago period by an average 3.8 percent through August—have been gradually strengthening, quarter by quarter, once allowances are made for typical seasonal patterns and for weather deviations. By September, the year-to-year comparison turned positive, partly because of above-trend deliveries this September, but mainly because deliveries in the year-ago period were beginning to fall sharply. Furthermore, if this year's moderately rising, month-to-month trend continues, year-to-year increases against weak deliveries in the latter part of last year would likely be the result.

Still, September's deliveries appeared somewhat stronger than might have been expected based on recent trends. Gasoline deliveries in particular, with a nearly 5 percent jump, year to year, were higher than would be easily explainable from consumption indicators. We estimate that underlying petroleum consumption in September was still likely flat to down against year-ago levels.

September's crude oil production rose 1.5 percent. Much of the increase was in Alaska, where production a year ago was still temporarily down as facilities enhancement efforts were being completed. Lower 48 output was up only about half a percent for the month.

In contrast with a year ago, total inventories rose in September by 14 million barrels to 1,095 million barrels—down from a year ago but higher than in recent prior Septembers. The contrasting stock behavior provided most of the explanation for a 9.8 percent year-to-year increase in imports. Underlying import requirements in September, however, were likely close to those of one year earlier.

At refineries, emphasis on distillate production led to a nearly 5 percent increase in output of that product even though input to distillation units declined 2.2 percent. Distillate stocks rose by 10 million barrels to 137 million barrels, a level slightly above a year ago and the highest for September in five years.

Article on distillate fuel oil supplies begins on page 7.

PRODUCT SUPPLIED [1]

Gasoline

DELIVERIES' JUMP CONTRASTS WITH TRAVEL DATA.

For gasoline, deliveries' dropoff a year ago, in response to sharply higher prices and the beginnings of recession, is hardly enough to explain the 4.6 percent, year-to-year jump in deliveries for this September. Much of the increase reflects puzzling strength for deliveries this September.

While it is true that, with hints of economic recovery, prices nearly 15 percent lower than a year ago on an inflation-adjusted basis, and comparisons against depressed demand in the year-ago period, year-to-year changes for September's deliveries would be expected to be less weak than earlier in the year. But the month's deliveries are still at odds with the latest data on miles traveled, which have continued to rise only marginally. Once the continued improvement in fleet efficiency is taken into account, these data imply that gasoline consumption, even against weak levels a year ago, would still have been expected to be down slightly, year to year, in September.

Meanwhile, regular unleaded's share has continued to lose ground to higher-octane grades, particularly premium unleaded, in recent months. The shift, however, has been gradual. Premium's share had dropped from over 22 percent a year ago July to less than 16 percent last October as consumers moved to lower-priced grades in response to higher prices following the Iraq invasion of Kuwait.

	API ESTIMATES SEPTEMBER		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	16.7	1.3	16.5	(3.2)
Crude production[2]	7.3	1.5	7.4	0.8
Total imports[3]	8.1	9.8	7.7	(9.0)
Stocks (million bbl)[3]	1,095	(1.2)	na	na

The most recent Department of Energy data for July show premium's share has inched back about halfway, to a little less than 19 percent. Regular unleaded's share moved in the opposite direction, to less than 68 percent in July from 71 percent last October. Meanwhile, mid-grade unleaded's share, though rising slightly, still only accounted for about 10 percent of sales. Leaded regular accounted for only about 3 percent of the market.

Distillates

TRANSPORTATION USE RECOVERING SLOWLY. On the surface, September's 1.3 percent increase in distillate deliveries appears to represent a marked improvement on the double digit decline seen a month ago. But, adjusting for the earlier-than-usual transfer of stocks from primary to non-primary storage a year ago—as inferred from August and September 1990 delivery, transportation and weather data—we still estimate a slight decline in consumption, year to year, for September.

On a seasonally-adjusted basis, transportation diesel demand has picked up from lows this past spring, albeit slowly and sporadically. Still, demand is thought to be down on a year-to-year basis. While railroad consumption appears to have roughly matched year-ago levels in recent months, best indicators for trucking demand suggest a drop of about 2-3 percent, year to year. Industrial demand, roughly five percent of the total distillate market, was also likely down, given an estimated decline in industrial output, and a continued shift in industrial energy use away from petroleum fuels.

With weather getting cooler, the focus in the distillate picture is shifting out of transportation fuels and into heating fuels. The New England states, which account for more than a quarter of U.S. heating fuel demand, got an early jump on the heating season during September, with about a 20 percent year-to-year increase in heating degree days. Even so, heating fuel consumption there was likely only about a sixth of what it has been on average during peak winter months. For a more in-depth analysis of the heating fuel outlook for the coming season, see the accompanying article on page 7 of this report.

Residual Fuel Oil

UP 10 PERCENT OVER YEAR-AGO LOWS. For resid, as was the case with gasoline and distillate fuels, depressed deliveries last September distort year-to-year comparisons this September. Growth for the month, at 10.3 percent, contrasts with nearly a 4 percent decline for the third quarter as a whole, and with the 5-6 percent decline trend in consumption estimated over the past several months.

Demand for resid, more so than for other major fuels, fell sharply in the months following the Iraqi invasion. Last September for example, accompanying a nearly 50 percent year-to-year increase in average resid prices paid by utilities was a roughly 25 percent decline in consumption of heavy oil by utilities. Resid bunker demand, sensitive to water-borne petroleum imports, fared little better last year, as these imports slid nearly 10 percent.

Indicators of underlying consumption were mixed in September. While an increase in power generation of 4-5 percent in the Eastern U.S. along with more competitive resid prices no doubt meant an increase in residual-fired generation, more abundant natural gas supplies this time of year likely moderated any surge in resid-burn. In shipping markets, U.S. exports continue to grow, but petroleum imports are still trending down moderately (on a stock-adjusted basis), and given continued buyer resistance to California's new excise tax, bunker demand is likely still trending down.

Not to be overlooked in residual fuel market analysis is the industrial sector, which accounts for roughly 15 percent of demand on an annual basis. Over time, declines in industrial resid demand have parallelled declines in utility demand. Between 1979 and 1989, for example, both fell by roughly 50 percent, resulting in part from conversion of many resid-fired generators to dual-fired ones. With U.S. industrial output believed to have been down approximately 2 percent, year to year, in September, industrial resid consumption was likely down as well, particularly if the trend over the past decade provides any indication. The aforementioned 50 percent drop in industrial resid consumption over the 1980s coincided with a nearly 25 percent increase in industrial output and a less than 15 percent drop in industrial consumption of all energy.

Kerosine Jet Fuel

PASSENGER TRAFFIC INCHING UPWARDS. Contrasting with moderate growth during the previous 2 months, jet fuel deliveries were off 3.2 percent in September. However, with miles flown on commercial airlines in September estimated to have been up about 1 percent, year to year—the first monthly increase since last December—the deliveries' decline appears to have resulted, in part, from surges in military jet fuel liftings a year ago, and perhaps from contrasting secondary inventory behavior this year versus last. Despite September's decline, jet fuel supplied was still up 1.4 percent during the third quarter.

That growth in passenger travel has resumed amid year-to-year declines in economic activity indicates that airline travel incentives have succeeded in attracting marginal travellers. The Air Transport Association reports that yields (i.e. revenues/passenger mile) have been down 1-2 percent, year to year, in recent months. This decline in yields reflects an increase in the number of discounted seats sold—more than 95 percent of the total in recent months versus about 92 percent for the same period a year ago.

As was the case prior to the Gulf War, international travel has been the catalyst for much of the traffic growth. While down more severely than domestic travel during the war months, international travel has witnessed more hardy growth since the spring, and was up an estimated 7 percent in September.

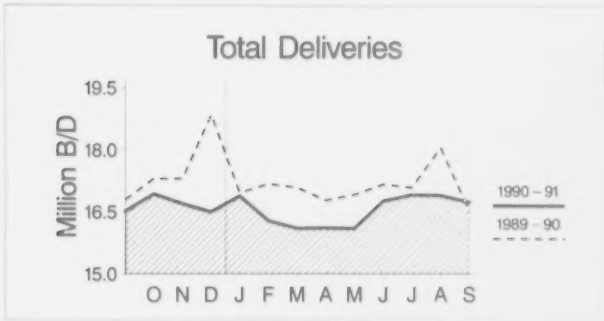
As mentioned above, September's delivery decline is believed to have resulted in part from above-trend military deliveries a year ago, associated with the U.S. airlift to the Persian Gulf, when domestic jet fuel purchases by the Army, Navy, and Air Force were up an estimated 30-35 thousand B/D above trend. Military jet fuel purchases accounts for perhaps 5 percent of total jet fuel deliveries; however, if the apparent return of growth in commercial travel continues, and some U.S. military bases are closed as proposed, that share is likely to decline.

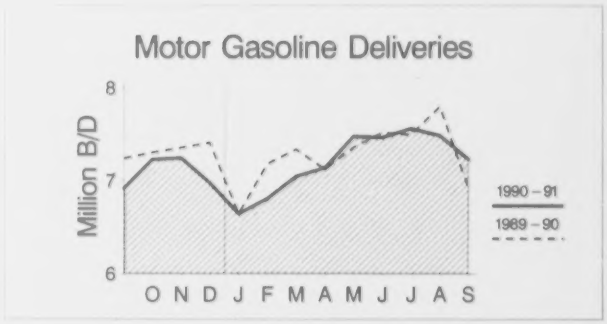
Other Oils

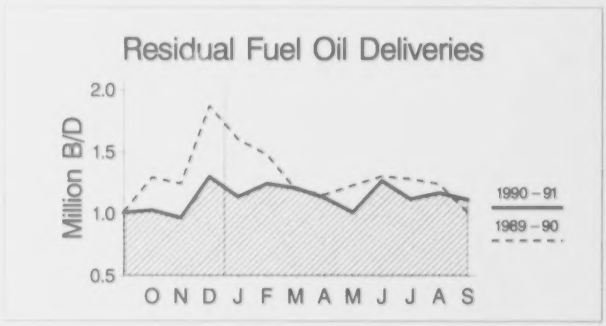
MODERATE DECLINE TREND CONTINUES. Deliveries of "other oils" fell 3.2 percent for September, following an even larger year-to-

year drop in August. This put the decline for the quarter as a whole at 3.4 percent, contrasting with a slight increase during the first half.

Deliveries of other oils, however, have not been quite as weak as might appear, because deliveries for the third quarter a year ago, including September, were unusually vigorous. Smoothing out the short-term variability in deliveries, we estimate an underlying year-to-year decline of around 2 percent.







SUPPLY [1/]

Production

COMPLETIONS DOWN FOR NATURAL GAS, FLAT FOR OIL.

September's domestic crude oil production was up 1.5 percent or nearly 110 thousand B/D versus a year ago. However, the bulk of the increase was in Alaska, where year-ago production was still down while the summer's special field enhancement activities were being completed. In the lower 48, crude oil production was only a half percent ahead of the year-ago level.

Well completions in the third quarter dropped 11 percent, year to year, according to the latest API estimates. This was mainly the result of a 28 percent drop for natural gas completions to among the lowest quarterly levels in two years, reflecting weakness in wellhead natural gas prices. Oil completions, though down about 10 percent from the first quarter's uptick, were up slightly year to year. The weakness of natural gas activity was particularly apparent in exploratory completions, where gas fell 38 percent, nearly twice the rate for exploratory oil completions.

Imports

STOCK BEHAVIOR CONTRIBUTES TO YEAR-TO-YEAR RISE.

Contrasts in primary and non-primary inventory behavior this September versus last help explain the 9.8 percent, or nearly 720 thousand B/D year-to-year increase in petroleum imports for the month. Still, imports of both crude and products have continued to recover from last December's lows. For September, with liquids production and exports up by comparable amounts, year to year, and with actual consumption estimated to have been about flat, the underlying need for imports was likely close to that of last September.

Although falling demand was one reason for low import levels last September, inventory behavior was the primary one. Following the Iraqi invasion, in the face of higher crude and product prices on world markets, refiners and bulk terminal operators opted, in many cases, to substitute stock draws for imports. As a result, rather than builds of about a half million B/D which are more typical for the month, primary inventories were drawn upon modestly. Adjusting for this and for inferred differences in non-primary inventory builds, it appears that there was little year-to-year change in import requirements for September.

While it is true that September's 17.4 percent increase in product imports resulted largely from the sharp drops a year ago, it is also true that these imports have been recovering, on a seasonally-adjusted basis, since February. In September, at roughly 2 million B/D, they were in line with levels seen in recent years for the month.

Resid imports, down particularly sharply a year ago, led the product surge—up 192 thousand B/D to 505 thousand B/D. Likewise, motor gasoline imports were up sharply; but, even with the 81 thousand B/D year-to-year increase, more attractive prices across the Atlantic kept the level, at 335 thousand B/D, in the

lower part of the range experienced for September in recent years. Meanwhile, distillate imports increased for the first time in over a year, up 39 thousand B/D to 265 thousand B/D, more in line with historical seasonal levels, and jet fuel imports increased 3 thousand B/D to 75 thousand B/D.

Refinery Operations

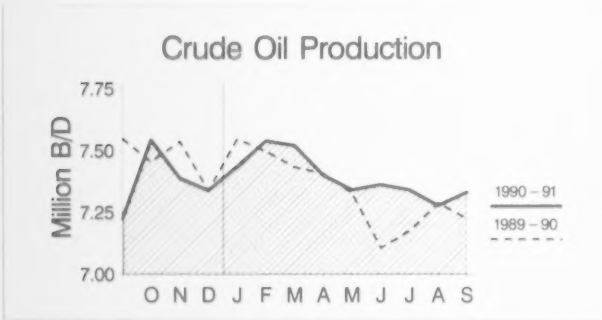
FOR DISTILLATE, OUTPUT JUMPS NEARLY 5 PERCENT... With turnaround requirements less than usual for the fall, September's refinery activity maintained levels comparable to August's. But though input to distillation units was relatively high for the time of year, it fell 2.2 percent short of even stronger levels a year ago. Utilization of operating capacity still averaged around 92 percent for the month, compared with levels a year ago among the highest observed in recent years at nearly 95 percent. Utilization of reported capacity in September averaged 89 percent.

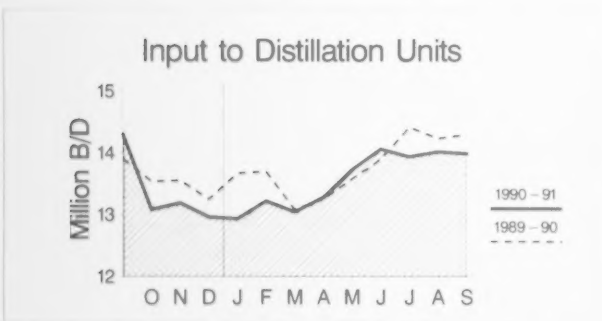
Despite the year-to-year decline in refinery input, emphasis on distillate production resulted in a 4.8 percent increase in output of that product to 3.11 million B/D, the highest level for September in twelve years. Gasoline output declined 2.2 percent, residual fuel oil output, 4.7 percent, while kerosine jet fuel production was nearly flat.

Inventories

...AND STOCKS REACH A 5-YEAR HIGH FOR SEPTEMBER. In September, product stocks rose by more than crude stocks fell—resulting in a net rise in total stocks of 14 million barrels, about typical for the month. Though down 13 million barrels from a year ago, September's 1,095 million barrel level of total stocks was higher than the 1,070-1,090 million-barrel range of the previous three Septembers.

Distillate stocks grew by 10 million barrels to 137 million barrels. This was slightly above year-ago levels and the highest level entering the heating season in five years. Gasoline stocks rose 5 million barrels to 215 million barrels, while crude oil stocks dropped back 9 million barrels to 339 million barrels after August's 5 million barrel rise.





1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 569 million barrels as of September 30, 1991).

ESTIMATED UNITED STATES PETROLEUM BALANCE
(Daily Average in Thousands of 42 Gallon barrels)

Products Supplied/Supply From Primary Storage	SEPTEMBER			YEAR-TO-DATE		
	1991/1	1990/2	% Change	1991/3R	1990/2	% Change
Products Supplied:						
Total motor gasoline	7,230	6,914	4.6	7,209	7,264	(0.8)
Finished leaded motor gasoline/*	265	326	(18.7)	278	413	(32.7)
Finished unleaded motor gasoline/*	6,965	6,588	5.7	6,931	6,851	1.2
Naphtha-jet	177	205	(13.7)	177	182	(2.7)
Kerosine-jet	1,287	1,329	(3.2)	1,288	1,325	(2.8)
Distillate fuel oil	2,900	2,864	1.3	2,893	3,043	(4.9)
Residual fuel oil	1,111	1,007	10.3	1,152	1,273	(9.5)
All other oils/4	4,287	4,427	(3.2)	4,080	4,117	(0.9)
Reclassified/5	-261	-235	11.1	-267	-121	120.7
Total domestic products supplied	16,731	16,511	1.3	16,532	17,083	(3.2)
Exports	942	847	11.2	1,035	784	32.0
Total products supplied	17,673	17,358	1.8	17,567	17,867	(1.7)
Supply:						
Domestic production:						
Crude oil/6	7,331	7,224	1.5	7,392	7,333	0.8
Natural gas liquids	1,730	1,597	8.3	1,664	1,527	9.0
Other supply/7	1,006	1,167	(13.8)	1,065	979	8.8
Total domestic supply	10,067	9,988	0.8	10,121	9,839	2.9
Imports:						
Crude oil, total/8	6,086	5,664	7.5	5,878	6,180	(4.9)
Canadian	644	632	1.9	738	635	16.2
Other	5,442	5,032	8.1	5,140	5,545	(7.3)
Products, total	1,994	1,698	17.4	1,787	2,240	(20.2)
Residual fuel oil	505	313	61.3	436	532	(18.0)
Other	1,489	1,385	7.5	1,351	1,708	(20.9)
Total imports	8,080	7,362	9.8	7,665	8,420	(9.0)
Total supply	18,147	17,350	4.6	17,786	18,259	(2.6)
Stock change, all oils	474	-8	******	219	392	******
Refinery Operations						
Input to crude oil distillation units	13,985	14,298	(2.2)	13,638	13,791	(1.1)
Operable capacity	15,708	15,702	0.0	15,752	15,611	0.9
Refinery utilization (%)/9	89.0	91.1	(2.3)	86.6	88.3	(1.9)
Crude oil runs	13,819	14,104	(2.0)	13,390	13,605	(1.6)

Stocks (millions bbls.)	1991		1990/2	% Change from	
	Sep. 30/10	Aug. 31/10	Sep. 31	Previous month	Year Ago
Crude oil/8	338.8	348.0R	342.6	(2.6)	(1.1)
Unfinished oils	109.6	109.6	112.7	0.0	(2.8)
Total motor gasoline/**	215.3	210.6	228.6	2.2	(5.8)
Finished leaded motor gasoline/*	6.9	6.5	11.3	6.2	(38.9)
Finished unleaded motor gasoline/*	170.3	167.6	176.5	1.6	(3.5)
Naphtha-jet	5.0	5.1	6.1	(2.0)	(18.0)
Kerosine-jet	45.8	42.4	43.8	8.0	4.6
Distillate fuel oil	137.4	127.6	136.0	7.7	1.0
Residual fuel oil	47.8	46.3	49.4	3.2	(3.2)
All other oils	195.3	191.2R	189.4	2.1	3.1
Total all oils	1,095.0	1,080.8R	1,108.6	1.3	(1.2)

/1 Based on API estimated data converted to a monthly basis.
/2 Source: U.S. Department of Energy.
/3 January-July, DOE. August-September, API
/4 Includes crude losses.
/5 Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from the total domestic products supplied.
/6 API estimate; includes lease condensate.
/7 Includes Unaccounted-for crude oil, which will reflect withdrawls from the SPR when they occur, processing gain, field production of other hydrocarbons and alcohol.
/8 Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
/9 Represents "Input to crude oil distillation units" as a percent of "Operable capacity"
/10 Derived by interpolating API weekly stocks data.
/R Revised.
/* ncluded in motor gasoline.
/** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

ESTIMATED UNITED STATES PETROLEUM BALANCE
(Daily Average in Thousands of 42 Gallon barrels)

Products Supplied/Supply From Primary Storage	3RD QUARTER		
	1991/1	1990/2	% Change
Products Supplied:			
Total motor gasoline	7,427	7,407	0.3
Finished leaded motor gasoline/*	287	382	(24.9)
Finished unleaded motor gasoline/*	7,140	7,025	1.6
Naphtha-jet	183	180	1.7
Kerosine-jet	1,335	1,317	1.4
Distillate fuel oil	2,776	2,937	(5.5)
Residual fuel oil	1,132	1,177	(3.8)
All other oils/3	4,264	4,414	(3.4)
Reclassified/4	-270	-209	29.2
Total domestic products supplied	16,847	17,223	(2.2)
Exports	981	797	23.1
Total products supplied	17,828	18,020	(1.1)
Supply:			
Domestic production:			
Crude oil/5	7,316	7,228	1.2
Natural gas liquids	1,688	1,551	8.8
Other supply/6	1,040	1,022	1.8
Total domestic supply	10,044	9,801	2.5
Imports:			
Crude oil, total/7	6,241	6,299	(0.9)
Canadian	657	656	0.2
Other	5,584	5,643	(1.0)
Products, total	1,900	2,031	(6.5)
Residual fuel oil	484	476	1.7
Other	1,416	1,555	(8.9)
Total imports	8,141	8,330	(2.3)
Total supply	18,185	18,131	0.3
Stock change, all oils	357	111	*****
Refinery Operations			
Input to crude oil distillation units	13,980	14,316	(2.3)
Operable capacity	15,712	15,667	0.3
Refinery utilization (%)/8	89.0	91.4	(2.6)
Crude oil runs	13,799	14,153	(2.5)

Stocks (millions bbls.)	3RD QUARTER		
	1991/9	1990/2	% Change
Crude oil/7	338.8	342.6	(1.1)
Unfinished oils	109.6	112.7	(2.8)
Total motor gasoline/**	215.3	228.6	(5.8)
Finished leaded motor gasoline/*	6.9	11.3	(38.9)
Finished unleaded motor gasoline/*	170.3	176.5	(3.5)
Naphtha-jet	5.0	6.1	(18.0)
Kerosine-jet	45.8	43.8	4.6
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Total all oils	1,095.0	1,108.6	(1.2)

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/8 Represents "Input to crude oil distillation units" as a percent of "Operable capacity".
/9 Derived by interpolating API weekly stocks data.
/R Revised.
/* Included in motor gasoline.
/** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

DISTILLATE SUPPLY CAPABILITY AND THE CURRENT HEATING SEASON

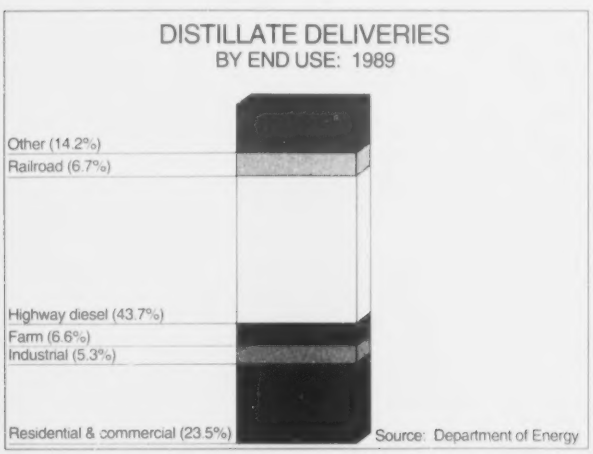
This article examines supply capability for distillate fuel oil over the coming heating season and concludes that, barring unforeseen disruptions, supplies from refineries, imports, and inventories appear adequate to meet demand within ranges likely to occur. Furthermore, it notes that the risk-coping mechanisms that have developed in recent years in response to large but short-lived changes in demand or supply have proved to be effective in managing the risks inherent in today's petroleum markets.

Background

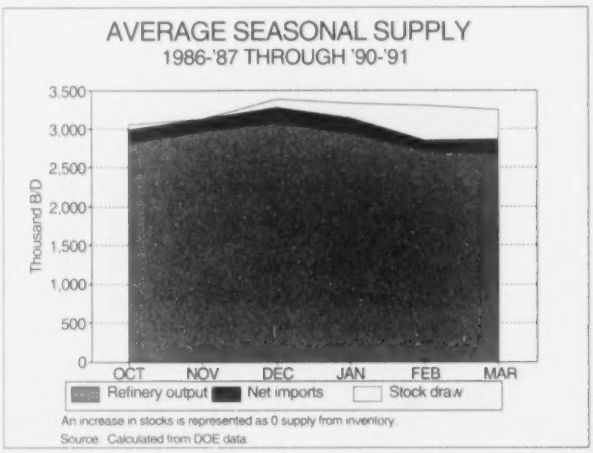
Heating oil accounts for a relatively small portion of overall distillate fuel oil demand in the U.S.—amounting to only about a fifth of the total on an annual basis. The remainder includes fuels for highway, rail and water transportation, as well as industrial, farm, off-highway, and electric utility uses. Nevertheless, the distillate supply situation is always of particular interest at this time of year, since the extremely seasonal nature of heating demand raises distillate fuel oil deliveries as a whole an average of half a million B/D higher in the October-March period than for the remainder of the year.

So far this year, deliveries have been down an average 5 percent or 150 thousand B/D from the same period in 1990, mainly the result of economic recession coupled with higher prices early in the year. Although the first quarter's weather was colder than the year-ago period, it was still quite mild and also contributed to weaker-than-usual heating oil demand. We estimate the underlying trend in consumption for the third quarter, once various temporary factors are accounted for, to have been down about 2 percent, year to year.

As for the coming season, preliminary industry forecasts typically run from 3.2 to 3.4 million B/D, averaging around 3.3 million B/D. Though this would represent a roughly 10 percent year-to-year increase, it should be noted that, for the reasons already mentioned—prices, the economy, and weather—deliveries last season were down nearly 10 percent to 3.0 million B/D from the previous season.



Thus, the 3.3 million B/D figure really represents a bounce back to levels typical of recent prior years. In addition, we estimate that unusually cold weather, such as would occur only about 5 percent of the time, could add 90 thousand B/D to demand over the heating season. Based on these figures, with both stronger-than-anticipated underlying demand and extremely cold weather, deliveries levels approaching 3.5 million B/D, though perhaps unlikely, are at least possible. Short-term, deliveries could reach higher levels, perhaps as high as December 1989's 3.9 million B/D, but such a monthly level has occurred only once in recent years.



Refineries

Refineries have traditionally been the principle source of distillate supplies, accounting for an average 89 percent over October to March in recent years. Inventory draws have accounted for 6 percent, and net imports, 5 percent. The situation last winter departed from the typical pattern more than usual—with exceptionally weak domestic demand being met entirely from refinery production and stock draws without recourse, on a net basis, to imports. In fact, with warm weather and economic recession domestically, war-related demand outside the U.S., and a severe cold spell in Europe, the U.S. was actually a net exporter of distillate last winter. The amounts, however, were small in relation to domestic demand—net exports amounted to about 2 percent of deliveries over October to March.

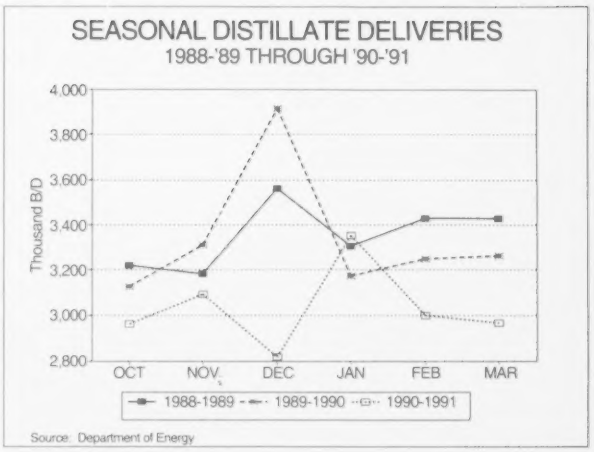
Recent history on refinery operations and yields provides some background as to where supply capability from refineries currently stands. Single-month distillate yields have ranged as high as nearly 25 percent of input to distillation units, though for the season as a whole, the most recent observed high was 23.3 percent during the 1985-86 season. Refinery runs averaging 14 million B/D for a six-month period, though quite strong, have been experienced as well, and would still allow for necessary turnarounds and downtime for normal maintenance and repairs.

These figures yield an estimated supply capability from refineries of over 3.25 million B/D. For shorter periods, higher levels could likely be achieved. It should be noted that the figures used in this calculation are high by historical standards, and the harder refineries are pushed to produce distillate, the more likely output of gasoline and other products could be hindered.

Inventories

At the end of September, distillate stocks stood at 137 million barrels—more than 50 million barrels above the 85 million barrel figure commonly accepted as the minimum operating level. Over the following six months, this would allow for a potential net drawdown at a rate of about 280 thousand B/D. Stock draws during recent seasons have ranged from 130 to 240 thousand B/D.

On a short-term basis, larger stock draws than this have not been uncommon. If inventories stay near their current level through the end of the year (which would be a typical pattern), a January stock draw equivalent to about 800 thousand B/D would still leave enough in inventory to fulfill typical patterns for the remainder of the season. This, combined with short-term refinery production capability, indicates "surge" supply capability from refineries and inventories of over 4 million B/D.



Imports

Net imports of distillate have traditionally played a small but not insignificant role in U.S. distillate supply. With the U.S. accounting for only about a fifth of world distillate consumption, however, international markets and the availability of imports are subject to many other influences besides developments in the U.S. market. This makes estimates of supply capability from imports subject to much more uncertainty than for domestic sources.

In particular, developments among the Soviet Republics, whose distillate exports to both Eastern and Western Europe have traditionally accounted for about a quarter of international trade, could affect the call on distillate from the world's other exporters—and thus, the availability of distillate imports for U.S. buyers. However, available information indicates that shipments to Western Europe, at least, have so far been continuing in line with prior patterns. Certainly, refinery problems or strikes in other parts of the world, or unusually warm or cold weather in Europe, are all additional factors that can cause significant swings in the availability of imports.

Estimates of supply capability from imports are thus by necessity quite imprecise. But a conservative estimate would be something above current net import levels, which have often been minimal in recent months, and perhaps somewhat below recent observed historical levels. Except for last season, net imports in recent years have run around 250 thousand B/D for the October-March period.

However, our estimates of supply capability of about 3.25 million B/D from refineries and .28 million B/D from stocks come to 3.53 million B/D, enough to supply the average projection of 3.3 million B/D in deliveries even before accounting for imports. As mentioned earlier, with higher-than-anticipated demand and a one-in-twenty cold winter, deliveries would be calculated at as much as 3.5 million B/D. With domestic supply capability of 3.5 million B/D from refineries and inventories and perhaps an additional 0.1-0.2 million B/D from imports, supply capabilities still appear adequate even in this less-than-likely demand case.

Concluding Observations

Beyond the basic supply/demand arithmetic is the question of risk. Although in the long run, supplies have been available to meet existing levels of demand, it has been the short-run developments—such as record cold weather or interruptions in Mideast supplies, to name but two—that have given rise to significant volatility in petroleum markets in recent years.

This substantial uncertainty has transformed petroleum markets as mechanisms have been developed to cope. Crude oil contracts have shifted to more flexible, formula-based pricing; the substantial growth of futures markets has extended price-hedging opportunities even, at times, to the retail level; inventory buffers, notably the U.S. Strategic Petroleum Reserve, have increased the potential to lessen the impact of disruptions and ease the adjustment process. All these mechanisms, along with governments' increased reliance on markets to respond to disruptions, have increased petroleum markets' capability to cope with risk.

In sum, barring unforeseen disruptions, distillate supply capabilities over the coming heating season appear adequate for demand within ranges likely to be observed. Even in the event of unexpected developments, the mechanisms which have developed to cope with these inherent uncertainties have substantially reduced the economic cost of these risks to petroleum markets.